Product Dissection for Amazon

Company Overview:

Amazon was founded on July 5, 1994, by Jeff Bezos in Bellevue, Washington. It is an American multinational technology company, engaged in e-commerce, cloud computing, online advertising, digital streaming, and artificial intelligence. it is the world's largest online retailer and marketplace, smart speaker provider, cloud computing service through **AWS.** Amazon.com is an e-commerce platform that sells many product lines, including media (books, movies, music, and software), apparel, baby products, consumer electronics, beauty products, gourmet food, groceries, health and personal care products, industrial & scientific supplies, kitchen items, jewellery, watches, lawn and garden items, musical instruments, sporting goods, tools, automotive items, toys and games, and farm supplies[45] and consulting services.

Product Dissection and Real-World Problems Solved by Amazon:

Product dissection, is the process for taking apart and analysing a product and all its parts, functionalities and features.

1.AMAZON KINDLE:

Amazon being the world's largest online retailer and a cloud service provider, the company is providing an innovative product offering to its customers and clients and a high-quality service platform that addressed the real-world challenges effectively through its innovative features and functionalities. The Amazon started by launching kindle e-reader to provide the online reading

features to the customers, allowing users to carry thousands of books in a single, lightweight device without their physical counterparts.

2.AMAZON MARKETPLACE:

Later focussed on providing e-commerce and cloud computing services (AMAZON WEB SERVICE(AWS)). The Amazon provided an innovative feature that included a wide range available of product categories, customer reviews, one-click purchasing, various payment options, and a fast door step delivery service. Enabled customers to shop from home, 24/7, with access to millions of products. Allowed small and medium-sized businesses to reach a global audience without needing their own infrastructure. Facilitated easy price and product comparison, helped consumers make informed purchasing decisions.

3.AMAZON PRIME:

The launch of amazon prime subscription service, it offered benefits like free two-day shipping, access to prime video, music, reading, and exclusive deals. The features included free one day and same-day deliveries, streaming services, early access to sales. Provided access to a vast library of movies and TV shows. Offered exclusive discounts and deals, providing financial benefits to prime members.

4.AMAZON WEB SERVICES(AWS):

The AWS product of amazon provides business clients with a suite of cloud computing services, storage, infrastructure, data analytics, etc, which lend cloud services to its business clients on pay-as-you-go pricing feature and also by reducing the need for client investment in setting up their own IT infrastructure and data centres. Through this product the businesses are achieving in bringing their new products into the market faster.

5.AMAZON PHARMACY:

Understanding the customer needs of online pharmacy services, amazon started providing prescription medications with home delivery. Making it easier for people to obtain prescription medications, especially those who have difficulty visiting physical pharmacies and beneficial for individuals with mobility issues or busy schedules.

6.AMAZON FRESH:

Allows customers to order fresh groceries from home and have them delivered quickly on same-day or the next-day. Helps individuals who have difficulty visiting grocery stores, such as the elderly or those with disabilities. Reducing the time spent on grocery shopping, freeing up time for other activities.

CONCLUSION:

Amazon's diverse range of products and services addresses numerous real-world problems, enhancing convenience, efficiency, accessibility, and affordability for consumers and businesses alike. By continuously innovating and expanding its offerings, Amazon has significantly impacted various aspects of consumer's daily life and business operations.

Case Study on Amazon e-commerce:

Real-World Problems and Amazon's Innovative Solutions:

Amazon, despite its tremendous success, has faced numerous real-world challenges over the years. These challenges span across various aspects of its operations, from logistical issues to regulatory scrutiny. Here are some of the significant problems Amazon has encountered.

1. Labor Practices and Employee Treatment

Problem: As the human resource plays a major role in the company, Amazon faced criticism over its labour practices, including reports of poor working conditions, high injury rates, overload work and inadequate breaks for warehouse workers.

Solution: In response, Amazon has invested in improving workplace safety, increasing wages for its labours, and introducing programs like Career Choice to help employees gain new skills. It also introduced benefits like healthcare, increased hourly wages every year for the labour.

2.Environmental impact:

Problem: Amazon's significant carbon footprint and environmental impact due to its extensive logistics and delivery operations.

Solution: Amazon pledged in achieving net-zero carbon emissions by 2040. The company is investing in renewable energy projects, including wind and solar farms. Deployment of electric delivery vehicles to reduce emissions from its

transportation network. Amazon started eco-friendly packaging i.e., 100% recyclable light paper and cardboard packaging, reducing the usage of plastics.

3.COUNTERFEIT AND UNSAFE PRODUCTS:

Problem: The presence of counterfeit and unsafe products on its marketplace has led to consumer trust issues and legal challenges.

Solution: Amazon started enhanced verification processes for sellers to prevent counterfeit (exact imitation of something) products from entering the marketplace and reaching the consumers. Introduction of Project Zero, which allows brands to directly remove counterfeit listings and utilizing AI and machine learning to proactively detect and remove counterfeit products to build up the trust within the consumers.

4.SUPPLY CHAIN AND DELIVERY CHALLENGES:

Problem: During the global events like the COVID-19 pandemic caused significant supply chain disruptions, affecting product availability and delay in delivery.

Solution: During the pandemic periods, Amazon has opened new fulfilment centres and expanded its logistics network to handle increased demand. Improved inventory management practices to ensure better stock levels and product availability which enables a timely delivery to the consumers. Increased local sourcing to reduce dependency on global supply chains and to moderate the disruption risks.

5.CUSTOMER SERVICE AND RETURNS:

Problem: Customers have reported issues with Amazon's customer service, including difficulties with returns and exchanges, and getting timely resolutions to problems.

Solution: Amazon has invested in expanding its customer service team and training them to handle issues more effectively. Simplified the return process and introduced features like easy returns and refunds to enhance customer satisfaction. Introduced Amazon Hub, including Locker and Counter locations, to make returns and pickups more convenient for customers.

6.PRODUCT AUTHENTICITY AND REVIEWS:

Problem: The authenticity of product reviews has been a concern, with reports of fake reviews misleading customers to order products based on the reviews.

Solution: implemented stricter verification processes for reviews, including using AI to detect fake reviews. Highlighting reviews from verified purchases to provide more reliable feedback. Encouraging genuine customer feedback through follow-up emails and incentives for honest reviews.

7.DAMAGED, DEFECTED OR WRONG PRODUCT DELIVERY:

Problem: Consumers have issues in receiving damaged or wrong products during the deliveries.

Solution: After all the reviews, feedbacks and increased number of returns from the consumers receiving wrong/ damaged products, Amazon understanding the reports, it started the open box deliveries for products and also for the groceries. In this method, the consumer can check their product's during the delivery time. Through this method, the consumer receiving damaged/defected or wrong products has been reduced over time. Amazon initiated the 7-days/10-days return policies and also the warranty promises for specific electronic appliances, so that the consumers have a way to return/exchange the products within the specified days if received damaged/defected items.

CONCLUSION:

Amazon has faced and continues to face a multitude of real-world problems, from labour, consumer and environmental issues to regulatory scrutiny and competitive pressures. By implementing strategic solutions, investing in technology, and focusing on customer satisfaction, Amazon has managed to navigate these challenges and maintain its position as a global leader in e-commerce and technology.

Top Features of Amazon:

1.User's account: Amazon account of a user explores the user details. Amazon allows users to create an account to log in to the amazon platform and shop the product, the features include email or a phone number, password for signing in, and the user's name, addresses (resident and office), gender.

2.Produts: Amazon allows users to interact with a wide range of **product categories**, that can be shared with people through different social websites,

user can save the product for future orderings, and can order the products for home deliveries.

3.Share and suggestions: Amazon provides the sharing options that helps the users to share the products via different medias to their friends and all. The suggested products appear in the product page and also the reviews by other customers are also specified in amazon product page that helps users to check, compare and buy the products.

4.Menu: Amazon provided a feature known as "MENU" that provides users to select the category of the amazon services (amazon pay, pharmacy, prime, books & education, travel &auto etc) that serves different services to the users. In the same menu options, amazon is providing the settings related to the user's account and a customer service feature that allows users to interact with the ordered and refunded/returned products info.

5.Filter: Amazon has a feature that helps users to filter out the specifications of the product they are looking for, this makes easy for the users to get the products with their required preferences.

6.Cart: Amazon has a feature known as "cart", which allows users to add their wished products in amazon cart that can be checked out in future buying. Just like a shopping cart that can be used to add products for all at a time purchase.

7.Payment: Amazon provides a feature of payment, that customers interact with the ordered products and payment through multiple methods (UPI, COD, internet banking, EMI, etc).

8.Orders: Amazon provides orders page in the user's profile, that shows the ordered products and ownership details of the products, summary of the payment, expected delivery date and a URL link to track the shipping.

Schema description:

The schema for Amazon involves multiple entities that represent different aspects of the platform. These entities include Users, Products, Orders, addresses, payment, suppliers and more. Each entity has specific attributes that describe its properties and relationships with other entities.

User profile Entity: Users are at the core of Amazon. The user profile entity contains information about each user:

- **Customer ID (Primary Key):** A unique identifier for each amazon user.
- **Full name and last name**: The name of the user to be displayed on their account.
- **Password:** A password for signing into the account.
- **Email:** The email of the user for security purpose and for account or order related communication.
- **Passkey:** A new feature for quick sign in just like unlocking the phone device.
- **Phone:** Phone number of the user for signing in authentication and account related updates.

Product Entity: A wide category of products from different companies including small-scale and medium-scaled business sell their products through amazon platforms.

- **Product ID (Primary Key):** A unique ID for each product.
- **Name:** Name of the product.
- **Price:** The price of the product.
- **Description:** The description / details of the product ingredients, product type, etc., the whole details of the product will be given.
- **Stock Quantity:** The quantity of units that the product contains and also the available quantities will also be shown to the customers.
- **Shop name:** The shop name will be specified to allow customers to know from where the product is been sold.

Address Entity: Customer add their addresses in their amazon account, which is required during the order/shipping delivery from amazon to the customers.

- **Address ID (Primary key)**: The unique id for each customer's address.
- **Customer ID (Foreign key referencing customer entity)**: The customer using amazon account.
- **Building/house number**: The house number of the customer.
- **Area and street number**: The area and the street number for easy deliveries.
- **Landmark**: The nearest landmark can be specified, that helps the delivery person to locate the customer resident.
- **State and pin code**: The state name and its pin code should be added for further details of the customer address.

Order Entity: The customers order the products from the amazon for door step delivery.

- **Order ID (Primary key):** The unique identification number for orders made by each customer.
- **Customer ID (Foreign key referencing customer entity):** The customer id that includes the customer details for shipment.
- **Supplier ID (Foreign key referencing supplier entity):** The details from whom and where the product is sold by.
- **Product ID (Foreign key referencing product entity):** The product id that includes the product details that customer ordered.
- **Address ID (Foreign key referencing address entity):** The address id contains the address details of the customer, that shows where the product to be delivered.
- **Order date:** The date on which the customer ordered the product and also amazon informs the customer about the expected delivery date of the orders.
- **Total amount:** The total amount will be shown (price of the product, taxes, delivery charges, etc).

Supplier Entity: The details of the supplier (who is selling that, name of the company, etc).

- **Supplier ID (Primary key):** The unique ID of each supplier, who sells their products through amazon platform.
- **Product ID (Foreign key referencing product entity):** The details of product the supplier is selling.
- **Supplier name:** The name of the supplier.
- **Supplier location:** The supplier city or location.
- **Other details:** The details of supplier company name, etc.

Payment Entity: The customer can make the payments for their orders through different paying options (net banking, unified payment interface (UPI), cash on delivery, EMI, etc).

- **Payment ID (Primary key):** The unique ID for each payment on every order by the customer.
- **Payment details:** The details of the payment method, status of the payment.

- **Customer ID (Foreign key referencing customer entity):** The details of the customer who made the payment on the product.
- **Product ID (Foreign key referencing product entity):** The details of the product.

**Review and rating Entity:** The customer can check out and write the reviews of on every product.

- **Review Id (Primary key):** The unique ID for each review made on every product.
- **Product id (Foreign key referencing product entity):** The details of the product on which the review is made.
- **Customer ID (Foreign key referencing customer entity):** The details of customer.
- **Review date:** The date of the review posted by the customers.
- **Review:** The reviews on the products posted by all customers.
- **Rating:** The rating from the customers on a scale of 5.

Relationships are:

- ➢ **Customer shop products:** The customers shop a wide category of products on amazon platform.
- ➢ **Customer specify address**: The customers add their address on their amazon account for door step delivery on multiple orders.
- ➢ **Customer order products:** The customers order different kind of products available on amazon.
- ➢ **Suppliers sell products**: The supplier sell their products through amazon platform.
- ➢ **Customer make payments:** The customers complete their payments for ordered products via different paying options.
- ➢ **Products have reviews and ratings:** The products have reviews and rating posted by the customers about their experience with the quality of product and delivery process.

ER Diagram:

Let's construct an ER diagram that vividly portrays the relationships and attributes of the entities within the Amazon schema. This ER diagram will serve as a visual representation, shedding light on the pivotal components of Amazon's data model. Through this diagram, you'll gain a clearer grasp of the intricate interactions and connections that define the platform's dynamics.
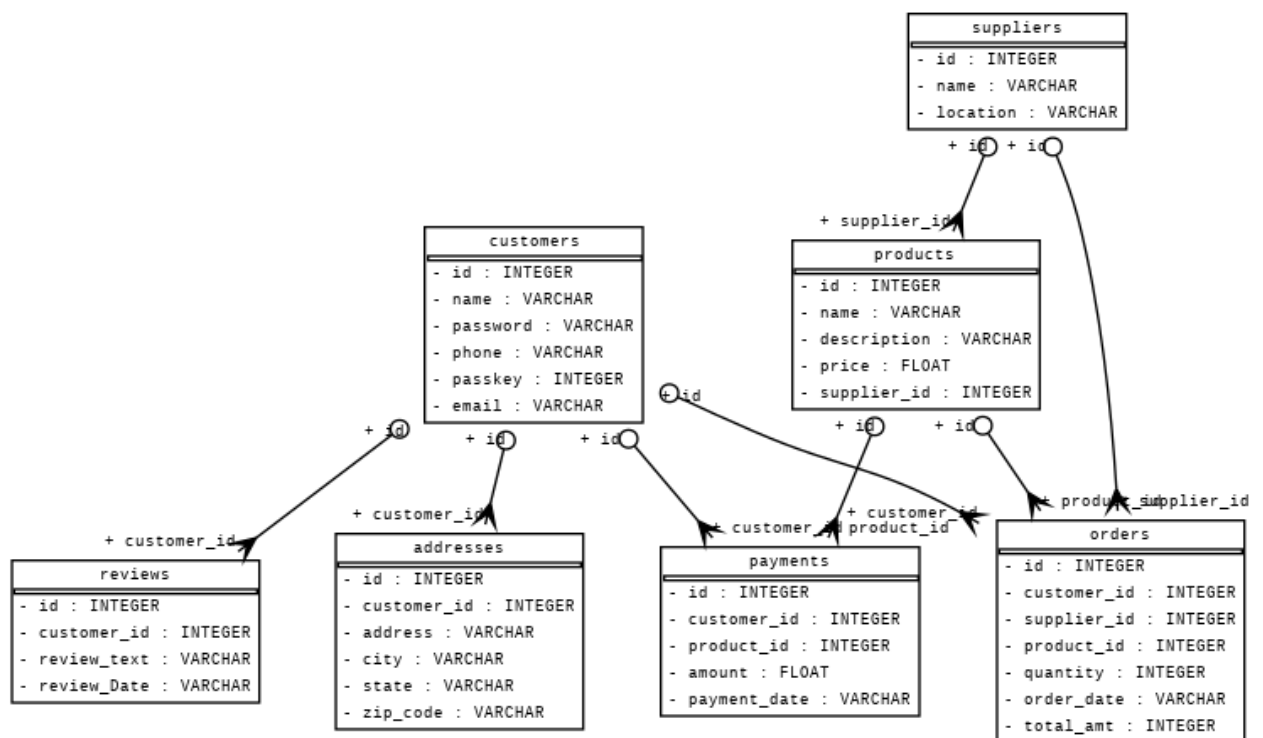
Conclusion:

In this case study, we delved into the design of Amazon's schema and Entity-Relationship diagram. Amazon has revolutionised the way people shop a wide category of products, ordering them, making easy and comfortable paying methods and to shop 24/7 for fast door step delivery. The platform's intricate data model, consisting of entities like customers, products, orders, payment, suppliers, reviews, forms the foundation for its seamless functionality. By understanding this schema, we gain insight into how Amazon effectively manages the complexities and complications of customer interactions with products and reviews, online shopping and payments, reviews and providing shipment tracks and providing comfortable delivery for its customers. Through this, schema design, we can understand how amazon entities play a pivotal role in shaping the functionality and success of Amazon platform in becoming the world's largest online shopping platform.

Video presentation link: